1.How web works?

## The web, short for World Wide Web, is a system of interlinked hypertext documents accessed via the Internet. Here's a basic overview of how it works:

## **Client-Server Model**: The web operates on a client-server model. Clients, such as web browsers, request resources, such as web pages or files, from servers, which store and serve those resources.

## **HTTP/HTTPS Protocol**: Communication between clients and servers on the web typically occurs using the Hypertext Transfer Protocol (HTTP) or its secure variant, HTTPS (HTTP Secure). HTTP defines how messages are formatted and transmitted, and how web servers and browsers should respond to various commands.

## **Domain Name System (DNS)**: When you type a URL (Uniform Resource Locator) into your web browser, such as "[www.example.com](http://www.example.com/)," your browser needs to find the corresponding IP address of the server hosting that website. It does this by querying a DNS server, which translates the human-readable domain name into a numerical IP address.

## **Request-Response Cycle**: When you enter a URL into your browser or click on a link, your browser sends an HTTP request to the appropriate web server, requesting the desired resource. The server then processes the request and sends back an HTTP response containing the requested resource, typically in the form of an HTML document.

## **HTML, CSS, and JavaScript**: Web pages are typically written in Hypertext Markup Language (HTML), which defines the structure and content of the page. Cascading Style Sheets (CSS) are used to style the HTML content, defining layout, colors, fonts, etc. JavaScript is a scripting language that allows for interactive elements on web pages, such as forms, animations, and dynamic content.

## **Rendering**: Once the browser receives the HTML, CSS, and JavaScript files from the server, it parses these files and renders the web page on the user's device, according to the instructions provided in the HTML and CSS.

## **Hyperlinks**: One of the defining features of the web is hyperlinks, which allow users to navigate between web pages by clicking on linked text or images. Hyperlinks are defined using HTML anchor tags (**<a>**), with the **href** attribute specifying the URL of the linked resource.

## **Statelessness**: HTTP is a stateless protocol, meaning that each request from the client to the server is independent and unrelated to previous requests. To maintain state across multiple requests (e.g., for user authentication or shopping carts), web applications often use techniques like cookies, sessions, or local storage.

## Overall, the web functions as a distributed system of interconnected resources, allowing users to access and interact with a vast array of information and services over the Internet.

2.what is a web crawler?

## A web crawler is a program that systematically browses the internet, following links from one web page to another to gather information. It's commonly used by search engines to index web pages for search results.

3.describe the usage of DOCTYPE declaration html file?

## The **DOCTYPE** declaration in an HTML file specifies the document type and version, ensuring standards compliance and consistent rendering across different web browsers. It triggers standards mode in modern browsers and informs them to interpret the content according to the specified HTML version.

Top of Form

4. why alt attribute is using with images in html?

#### The **alt** attribute is used with images in HTML to provide alternative text that describes the content of the image. This text is displayed by browsers in place of the image if the image cannot be loaded or if the user is using a screen reader. Additionally, it improves accessibility by providing visually impaired users with information about the image's content.

Bottom of Form